

REMARKS

This is in response to the Office Action dated June 5, 2006. No claims have been amended herein. Claims 6, 21, 27 and 31 are pending.

Claim 6 stands rejected under 35 U.S.C. Section 103(a) as being allegedly unpatentable over Inaba in view of Armezzani and alleged Admitted Prior Art Figs. 5-6 (APA). This Section 103(a) rejection is respectfully traversed and should be withdrawn for at least the following reasons.

Claim 6 requires that “said first insulative protecting film and said second insulative protecting film are both polymer film, and are placed to cover the first wiring and the second wiring except for at least the terminal portion, and are bonded with the insulating substrate via an adhesive, at least one of said first insulative protecting film and said second insulative protecting film, which is connected to the surface on which the terminal portion is provided is thinner than the insulating substrate, said terminal portion is provided only on the first wiring, and *an end of the second insulative protecting film closer to the terminal portion, the second insulative protecting film being on a side of the substrate opposite the terminal portion, is farther away from an end of the insulating substrate where the terminal portion is provided than an end of the first insulative protecting film closer to the terminal portion.*” For example and without limitation, and for purposes of understanding, Figs. 1-2 of the instant application illustrate that the first insulative protecting film 4 (at the bottom of Fig. 1) and the second insulative protecting film (at the top of Fig. 1) are both polymer films and are placed to cover the first wiring 2 and the second wiring 2 except for at least the terminal portion (see terminal portion proximate 3), and are bonded with the insulating substrate 1 via an adhesive (e.g., 6). Moreover, for example, Fig. 1 illustrates that the first insulative protecting film 4 (at the bottom of Fig. 1), which is connected

to the surface on which the terminal portion 3 is provided, is thinner than the insulating substrate

1. Fig. 1 further illustrates, for example and without limitation, that the end of the second protective film 4 (at the top of Fig. 1) closer to the terminal portion (see terminal portion proximate 3) is farther away from an end of insulating substrate 1 where the terminal portion is provided than an end of first protective film 4 (at the bottom of Fig. 1) closer to the terminal portion.

The alleged Section 103(a) modification is legally flawed. The Office Action relies on Inaba for an alleged first wiring 4, second wiring 2, terminal portion 3, and first and second protective layers 7. However, the Office Action admits that Inaba fails to disclose that “*an end of the second insulative protecting film closer to the terminal portion, the second insulative protecting film being on a side of the substrate opposite the terminal portion, is farther away from an end of the insulating substrate where the terminal portion is provided than an end of the first insulative protecting film closer to the terminal portion*” as required by claim 6.

In an attempt to cure this flaw of Inaba, in making the Section 103(a) rejection, the Office Action cites to APA Fig. 6 for the teaching of positioning the end of a protective layer 114, located opposite a terminal portion 113, farther away from an end of the substrate 111 where the terminal portion is provided than is an end of the other protecting film 114 which is on the side of the substrate closest to the terminal portion. The Office Action’s alleged “motivation” for making this modification is “to reduce the number of layers that must be folded in the terminal mounting region, thus making the device more flexible” (see the Office Action at the bottom of page 4 and top of page 5 for alleged “motivation”). This motivation is incorrect. In particular, as can be seen in APA Fig. 6, positioning the end of one protective layer 114 farther from the end of the substrate 111 than the end of the other protective layer 114 does *not* reduce the

number of layers that are folded/bent, and does not increase flexibility. Instead, the number of layers at the bent region in APA Fig. 6 is not changed, because both layers 114 are bent in the bent region. Thus, this alleged motivation makes no sense and is incorrect. One of ordinary skill in the art would never have modified Inaba based on APA Fig. 6 for this reason, because the alleged motivation is incorrect and does not occur. There is no suggestion or motivation in the cited art for the alleged modification to Inaba. Hindsight is not permissible. Thus, it is respectfully requested that the Section 103(a) rejection of claim 6 be withdrawn.

The technique shown in Fig. 6 does not increase flexibility – again, the rationale/motivation is fundamentally flawed. In the structure shown in Fig. 6, each of the outer protective film 114 and the inner protective film 114 has an end close to the terminal, and the end of the outer film 114 is positioned in the non-bending region of the board 111. The distance between the end of the outer film 114 and the terminal is longer than the distance between the end of the inner film 114 and the terminal. As such, all the layers exist in the bending region of the board 111, with the result that stress is exerted from the bending region into the terminal portion; accordingly, the wire may be disconnected.

In contrast, in certain example non-limiting embodiments of this invention, each of the outer protective film 14 and the inner protective film 14 has an end close to the terminal, but the end of the outer film 14 is positioned in the bending region of the flexible wiring board 30. The distance between the end of the outer film 14 and the terminal is longer than the distance between the end of the inner film 14 and the terminal. In such an example structure, the outer protective film 14 may not exist in a region ranging from (i) an end of the outer film 14, to (ii) the end, close to the terminal, of the flexible wiring board. This can relieve stress that is to be

exerted from the bending region onto the terminal portion, with a result that the likelihood of wire disconnection is reduced.

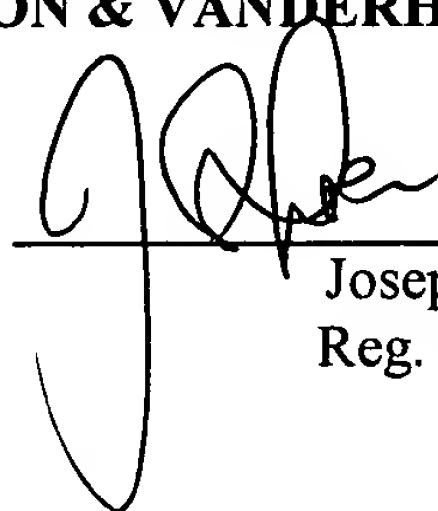
Claim 21 requires that "an end of the second insulative protecting film closer to the terminal portion, the second insulative protecting film being on a side of the substrate opposite the terminal portion, is *farther* away from an end of the insulating substrate where the terminal portion is provided than an end of the first insulative protecting film closer to the terminal portion." Again, the cited art fails to disclose or suggest this feature of claim 21. The alleged motivation for the alleged modification of Inaba is incorrect as explained above in connection with claim 6, and the alleged modification is not suggestion or disclosed in the cited art.

It is respectfully requested that all rejections be withdrawn. All claims are in condition for allowance. If any minor matter remains to be resolved, the Examiner is invited to telephone the undersigned with regard to the same.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By:



Joseph A. Rhoa
Reg. No. 37,515

JAR:caj
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100